## VARIABLE FOCUS LENS ELEMENT AND OPTICAL WAVEGUIDE

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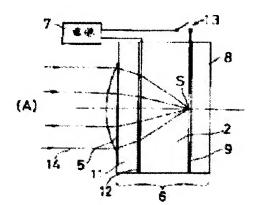
- European:

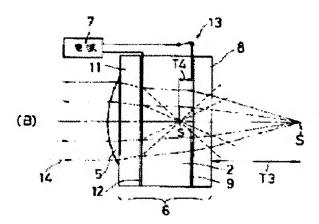
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## Abstract of JP9015575

PURPOSE: To obtain the optical output having a high contrast ratio and the high utilization efficiency of the optical output. CONSTITUTION: A liquid crystal layer 2 is interposed in between one pair of substrate member having transparent electrodes 9, 12 and a condenser lens 5 is arranged at a side opposite to the liquid crystal layer 2 of the substrate member. The transparent electrodes 9, 12 are connected to a power supply device 7. In a state in which an electric field is not impressed on the liquid crystal layer 2, a light shielding layer being at the vicinity of a light convergent point where a light made incident from the condenser lens 5 is converged and having a size which is almost equal to the irradiation area of the converged light is arranged. Then, when the electric filed is not impressed on the liquid crystal layer 2, the incident light is converged and is absorbed by the shielding layer to become a dark (black) state. When the electric field is impressed on the liquid crystal layer 2. since the refractive index of liquid crystal is changed and the light convergent point is moved, the incident light is emitted from a part other than the shielding layer to become a bright (white) state.





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